

NOAA Science Challenges Workshop

**Predicting Arctic Weather and Climate and Related Impacts:
Status and Requirements for Progress**

May 13-15
Earth System Research Laboratory
Room GC-403
325 Broadway, Boulder CO

Tuesday, May 13

8:00 am *Coffee & light breakfast / Registration, AV check-in, logistics*

8:30 am *Welcome to NOAA ESRL – Sandy MacDonald (NOAA ESRL Director)*

8:35 am *Workshop Overview and Objectives - Randy Dole (NOAA)*

1. The Drivers: US and NOAA Requirements for Advancing Arctic Predictions

Randy Dole, Chair

8:50 am *National Needs for Improved Arctic Weather & Climate Predictions – David Titley (PSU, Center for Solutions to Weather and Climate Risk)*

9:05 am *A Navy perspective on Current and Future Needs for Arctic Operational Predictions - RADM Jon White (US Navy)*

9:20 am *NOAA Imperatives, Drivers and Service Needs – David Kennedy (NOAA)*

9:35 am *NOAA NWS Arctic Operational Forecasting Perspectives – Ming Ji (NWS/NCEP)*

9:50 am *Arctic Information and Regional Service Needs– Aimee Devaris (NWS Regional Director– Alaska Region)*

10:05 am *Break*

2. Scientific Foundations for Improving Predictions

David Bromwich, Chair

10:30 am *Arctic Science for Improving Predictions – John Walsh (University of Alaska, Fairbanks, CIFAR)*

- 10:50 am *Arctic-Lower Latitude Linkages: Implications for weather and climate predictions* – Judah Cohen (Atmospheric and Environmental Research)
- 11:10 am *Arctic Sea Ice Predictability* – Marika Holland (NCAR)
- 11:30 am *Open discussion, with presenters of the first two sessions as panelists*
- 12:00 pm *Lunch (on-site in Rm GB-124)*

3. Operational Predictions: Status, Challenges and Opportunities for Progress Aimee Devaris, Chair

- 1:00 pm *NOAA* – Robert Grumbine (NOAA NCEP)
- 1:15 pm *Navy* – Rick Allard (NRL)
- 1:30 pm *National Ice Center & North American Ice Service* –Caryn Panowicz and Behnjamin Zib
- 1:45 pm *Environment Canada* – Hal Ritchie
- 2:00 pm *Open discussion, with presenters as panelists*
- 2:30 pm *Break*

Breakout group discussions – Key Challenges and Opportunities

- 3:00 pm Breakout group guidance (Dole)
- 3:15 pm Breakout groups convene in breakout rooms

Consider end-to-end capabilities. Take advantage of cross-disciplinary expertise.

- What are the critical gaps limiting progress?
- Are there specific high priority problems where near-term progress is feasible?
- Are there common challenges that cut across several problems that, if addressed, would allow progress on multiple problems?

- 5:00 pm *Reconvene in plenary – Summary, next steps* (Dole)
- 5:15 pm End of Day 1
- 6:30 pm *Group dinner for those interested (Chautauqua)*

Wednesday, May 14

8:00 am *Coffee & light breakfast, AV check-in*

8:30 am *Day 1 Recap, Day 2 Objectives (Randy Dole)*

8:40 am **Day 1 Breakout Summaries**

Brief summaries (~5-10 minutes, 1-2 slides) from each breakout group followed by plenary discussion of key challenges and opportunities.

9:55 am *Break*

4. International and National Partnership Opportunities

Renee Tatusko, Chair

10:15 am *WWRP Polar Prediction Project, YOPP, MOSAiC – Chris Fairall (NOAA)*

10:30 am *Interagency Processes & Mechanisms IARPC and USARC John Farrell (USARC)*

10:45 am *Earth System Prediction Capability – Dan Eleuterio (ONR)*

11:00 am *Sea Ice Prediction Network - Julianne Stroeve (NSIDC)*

11:15 am *Forecast Evaluation and User-Focused Verification – Barb Brown (NCAR)*

11:30 am *Open discussion, with presenters as panelists*

12:00 pm *Lunch (on-site in Rm GB-124)*

Breakout group discussions Day 2 - Requirements for Progress

1:00 pm Breakout group guidance (Dole)

1:15 pm Breakout groups convene in breakout rooms

- What are actions recommended for NOAA to improve predictions of Arctic weather and climate and Arctic-lower latitude linkages over the next 5-6 years?
- How can NOAA work together with partners to address these challenges?

3:00 pm *Break*

3:30 pm *Breakout groups reconvene – Draft key recommendations*

5:15 pm *End of Day 2*

Thursday, May 15

8:00 am *Coffee & light breakfast, AV check-in*

5: Recommendations for NOAA Actions

Plenary session

8:30 am *Day 2 Recap, Day 3 Objectives (Randy Dole)*

8:40 am *Breakout group summaries – Opportunities, actions, partnerships*

10:15 am *Break*

10:45 am *Open discussion*

11:30 am *Initial summary of findings and NOAA response, next steps*

12:00 pm *Meeting conclusion*

12:15 pm Closed lunch-session for Program Committee and Program Managers